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A GUIDE FOR INTERPRETING ENTRIES ON THE SURFACE WEATHER RECORD

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ATMOSPHERIC ENVIRONMENT SERVICE

A GUIDE FOR INTERPRETING ENTRIES ON THE SURFACE WEATHER RECORD

This guide has been prepared to assist in the interpretation of meteorological information contained in the SURFACE WEATHER RECORD. The following paragraphs explain most of the entries shown on these daily reports. For a more comprehensive explanation the user is referred to the MANUAL OF SURFACE WEATHER OBSERVATIONS (MANOBS). An example of a SURFACE WEATHER RECORD is found in appendix 1.

MANOBS was prepared with due consideration to the recommended practices and procedures set down by the World Meteorological Organization. Five parts are included containing instructions on the following:

Part (A) Observing Procedures - General
Part (B) Hourly Observations - Detailed Coding and Reporting
Part (C) Synoptic Observations - Detailed Coding and Reporting
Part (D) Supplementary Codes - Detailed Coding and Reporting - Pilot's Reports (PIREPS), Pilot Balloon Observations, Weather Codes - Automatic Weather Stations.
Part (E) Abstracting and Recording Supplementary Data - Climatological Summary, Wind, Rain.

The SURFACE WEATHER RECORD form was revised in June 1986 to incorporate the use of COORDINATED UNIVERSAL TIME (UTC) instead of GREENWICH MEAN TIME (GMT). UTC is the same as GMT.

To calculate LOCAL STANDARD TIME (LST) or DAYLIGHT SAVINGS TIME (DST), the time zone difference must be subtracted from the COORDINATED UNIVERSAL TIME (UTC). For examples of the times zones in Canada refer to appendix 2.

OBSERVED DATA AND COMPUTATIONS (Section I)

DURATION OF WEATHER : (Cols. 2, 3 and 4)

The types and times of occurrence of thunderstorms, precipitation and obstructions to vision are recorded in COORDINATED UNIVERSAL TIME (UTC). Under type, the appropriate symbols for weather and obstructions to vision together with intensity modifiers used for thunderstorms and precipitation are entered. Fog is entered only when it reduces the prevailing visibility to less than 5/8 of a mile (1 km). All other obstructions to vision are entered in these columns whenever they reduce the prevailing visibility to 6 miles (10 km) or less. An arrow "←" indicates that the times of beginning of weather and obstructions to vision were not known or began previous to the 0700 UTC observation. An arrow "→" indicates the above mentioned phenomena

continued uninterrupted at any time after the 0600 UTC observation to the 0700 UTC observation shown as the first observation on the SURFACE WEATHER RECORD.

CORRECTED MAXIMUM TEMPERATURE : (Col. 5)

The corrected maximum temperature of the previous six hours is entered in degrees and tenths Celsius.

MAXIMUM TEMPERATURE : (Col. 6)

The maximum temperature of the previous number of hours specified in the upper left corner is entered.

CORRECTED MINIMUM TEMPERATURE : (Col. 7)

The corrected minimum temperature of the previous six hours is entered in degrees and tenths Celsius.

MINIMUM TEMPERATURE : (Col. 8)

The minimum temperature of the previous number of hours specified in the upper left corner is entered.

PRECIPITATION AMOUNTS : (Cols. 9-14)

Precipitation amounts are measured every six hours and recorded in the appropriate columns 9-14. Rainfall and total precipitation are measured in millimetres and tenths, snowfall is measured in centimetres and tenths, and depth of snow on the ground is measured in whole centimetres. Generally, prior to 1962, the water equivalent of snowfall was obtained by dividing the snowfall by ten. All stations in Canada are now equipped with snow gauges, enabling them to measure the actual water content of snow.

HOURLY OBSERVATIONS (Section II)

CORRECTED WET-BULB °C : (Col. 23)

This temperature is the value obtained after the appropriate correction has been applied to the observed reading of an "ordinary" thermometer whose bulb is covered by a thin film of water or by a thin coating of ice.

RELATIVE HUMIDITY % : (Col. 24)

Relative Humidity is the ratio, expressed as a percentage, of the amount of water vapour actually present in the air to the amount of water vapour which would be present if the air were saturated with respect to water at the same temperature and pressure.

TOTAL OPACITY (Cloud and Obstructions to Vision) : (Col. 25)

Total Opacity is reported in tenths and represents the portion of the whole sky concealed by all layers observed.

TOTAL AMOUNT (Cloud and Obstructions to Vision) : (Col. 26)

Total Amount is the amount in tenths of the whole sky that is covered by all layers observed.

TYPE (Observations) : (Col. 27)

Regular Observations (SA)

Regular Observations are the "hourly observations" taken to meet scheduled transmission times.

Regular-Special Observations (RS)

When a regular observation reveals that one or more of the criteria specified as requirements for "special observations" has occurred, the observation is designated as regular-special.

Special Observations (SP)

Special Observations are taken promptly to report changes which occur between scheduled transmission times.

A special observation is taken whenever one or more of the elements listed in MANOBS (para. 10.3.5.1 to 10.3.5.7) has changed by the amount specified. The amount of change is with reference to the preceding regular or special observation.

Check Observation (C)

Check Observations are taken during the time between regular hourly observations to ensure that significant changes in weather do not remain unreported. If such an observation does not reveal a significant change it is designated as a "check observation". If a significant change has occurred, the report is treated in every way as a "special observation".

DATE (UTC) : (Col. 28)

Two figures are used to indicate the date of each observation, specials and checks included, based on COORDINATED UNIVERSAL TIME. The change of date takes place at 0000 UTC.

HOUR (UTC) : (Col. 29)

Weather observations have been taken on the hour since June 1, 1957. Prior to this, readings were taken on the half-hour. The hour of observation is entered by a four figure group in COORDINATED UNIVERSAL TIME, using the 24-hour clock system. To derive LOCAL STANDARD TIME, refer to the top right hand entry on the form.

SKY CONDITION : (Col. 30)

Column 30 is used to describe sky condition in an abbreviated form. The abbreviations used are as follows:

Term	Symbol or Abbreviation	Symbol is used to Represent
Clear	CLR	• The sky condition when no cloud or obscuring phenomenon is present.
Partially Obscured	-X	• A surface-based layer with a summation opacity of at least 1/10 but less than 10/10.
Obscured	X	• A surface-based layer with a summation opacity of 10/10.
*Scattered	SCT	• A layer aloft with a summation amount of 5/10 or less.
*Broken	BKN	• A layer aloft with a summation amount of 6/10 to 9/10 inclusive.
*Overcast	OVC	• A layer aloft with a summation amount of 10/10.

*Note: The symbol for "thin" (-) may be prefixed to these symbols. MANOBS (para. 10.2.8.2)

A coded numerical value, giving the height of the base of the layer aloft, is prefixed to SCT, BKN or OVC. Heights are with reference to the official aerodrome level of the station, or, if this has not been established, with reference to the ground level.

A coded numerical value giving the height of the vertical visibility in a surface-based layer is prefixed to the symbol "x".

The heights of bases of layers or height of vertical visibility is determined to the nearest :

(1) 30 m from the surface up to 3000 m
(2) 300 m above 3000 m

After the height has been determined to the nearest 30 m or 300 m, this value is divided by 30 to obtain the CODED HEIGHT which precedes the symbol SCT, BKN, OVC or X.

Height of Base of Layer	Coded Height	Equivalent Height in Feet*
30 m	1	98
120 m	4	393
1500 m	50	4921
6000 m	200	19686
9000 m	300	29529

*Note: The coded height recorded in col. 30 is a direct reading of height in units of "30 metres" and is a close approximation of the height in "hundreds of feet".

VISIBILITY (Mi) : (Col. 31)

Visibility is the greatest distance at which objects of suitable dimensions can be seen and identified. The visibility reported in col. 31 is the prevailing visibility which is the maximum visibility value common to sectors comprising one-half or more of the horizon circle observed at eye level above the ground (1.8 m).

Optical devices such as sun glasses, binoculars, etc., are not used when determining visibility. Glare is a factor in assessing visibility and the eye must not be protected from it.

Visibility at night is determined with the aid of markers in the form of lights. Obstruction lights on towers and buildings and various marker lights around an airport are used as markers. Since visibility is the degree of clearness of the atmosphere, darkness alone without weather or obstructions to vision will not cause a reduction in visibility.

Prevailing visibility is reported in increments of 1/8 mile between 0 and 3/4, increments of 1/4 mile between 1 and 2½, increments of 1 mile between 3 and 15, and increments of 5 miles over 15 miles. A "V" immediately after the numerical visibility value indicates that the visibility is variable. The range of variation is shown in column 41.

WEATHER AND OBSTRUCTIONS TO VISION : (Col. 32)

The symbols for weather and obstructions to vision are as follows:

TORNADO	tornado
WATERSPOUT	waterspout
FUNNEL CLOUD	funnel cloud
T, T+	thunderstorm

PRECIPITATION

R	rain	S	snow
RW	rain shower	SW	snow shower
L	drizzle	IP	ice pellets
ZR	freezing rain	IPW	ice pellet shower
ZL	freezing drizzle	SP	snow pellets
A	hail	SG	snow grains
		IC	ice crystals

OBSTRUCTIONS TO VISION

F	fog	K	smoke
IF	ice fog	BD	blowing dust
D	dust	BN	blowing sand
H	haze	BS	blowing snow

The intensity of precipitation is indicated by placing the appropriate modifier after the symbol. Thus "+" indicates heavy precipitation; "-" indicates light precipitation and "- -" indicates very light precipitation. The absence of a modifier indicates precipitation of moderate intensity. An exception to the above is ICE CRYSTALS, to which no intensity is assigned.

The criteria for determining the intensity of precipitation are given in MANOBS (para. 3.9.1 - 3.10.1.).

SEA-LEVEL PRESSURE : (Col. 33)

The atmospheric pressure, reduced to sea-level, in hectopascals (millibars) and tenths with the initial 9 or 10 and the decimal point omitted, e.g., 1013.2 hPa (mb) is recorded as 132; 990.6 hPa (mb) is recorded as 906.

DRY-BULB TEMPERATURE (°C) : (Col. 34)

The corrected dry-bulb temperature in degrees and tenths Celsius is entered.

DEW-POINT TEMPERATURE (°C) : (Col. 35)

The corrected dew-point temperature in degrees and tenths Celsius is entered.

The dew-point is the temperature at which the air would become saturated (with respect to water) if cooled at constant pressure and without the addition or removal of water vapour. For example if the dry-bulb temperature was 25° Celsius and the dew point temperature was 20° Celsius it would be necessary to cool the air to 20° Celsius to achieve saturation. Therefore, the spread between the dry-bulb temperature and the dew point temperature indicates the degree of saturation; hence the less the spread, the nearer the air is to saturation.

WIND DIRECTION : (Col. 36)

The two-minute mean direction from which the surface wind is blowing is recorded to the nearest ten degrees (00-36) in column 36. The corresponding compass points may be derived by using the following table :

Compass Points	Code	Degree	Compass Points	Code	Degree
	00	Calm		19	185-194
	01	005-014	SSW	20 ...	195-204
NNE	02 ...	015-024		21	205-214
	03	024-034		22	215-224
	04	035-044	SW	23 ...	225-234
NE	05 ...	045-054		24	235-244
	06	055-064	WSW	25 ...	245-254
ENE	07 ...	065-074		26	255-264
	08	075-084	W	27 ...	265-274
E	09 ...	085-094		28	275-284
	10	095-104	WNW	29 ...	285-294
ESE	11 ...	105-114		30	294-304
	12	115-124		31	305-314
	13	125-134	NW	32 ...	315-324
SE	14 ...	135-144		33	325-334
	15	145-154		34	335-344
SSE	16 ...	155-164		35	345-354
	17	165-174		36	355-004
S	18 ...	175-184			

WIND SPEED (kt) : (Col. 37)

The mean wind speed in knots (kt) is entered in column 37. If the speed has been estimated the letter "E" will follow immediately after the mean speed. "00" is entered for calm. The reading is based on a two minute average at the time of observation. Refer to appendix 3 for conversion of knots to kilometres.

WIND CHARACTER : (Col. 38)

The letter "G" is entered to indicate gustiness if gusts (MANOBS para. 7.1.3.1) have been observed in the 10-minute period preceeding the time of the report.

The letter "Q" is entered to indicate when a squall (MANOBS para. 7.1.3.2) has been observed during the 10-minute period preceeding the time of the report.

CLOUDS and/or OBSCURING PHENOMENA : (Col. 40)

The type and opacity of each layer for which a sky cover symbol is given in column 30 is entered in column 40. A list of the types of cloud and obscuring phenomena and their abbreviations is given in appendix 4.

REMARKS: (Col. 41)

Meteorological information of importance to aviation and other users which has not been given previously in the report shall be recorded under REMARKS. Weather symbols and abbreviations authorized in the MANUAL OF ABBREVIATIONS (MANAB) shall be used to conserve space as much as possible. However, plain language, English words shall be used as necessary to amplify or clarify the information. Information enclosed in brackets is not of direct importance.

The following priority shall be observed when recording REMARKS in the HOURLY OBSERVATION:

1. General Weather Remarks (MANOBS para. 10.2.19.1 to 10.7.19.10)
2. Snowfall (MANOBS para. 10.2.19.11)
3. Rainfall (MANOBS para. 10.2.19.12)

CODED SYNOPTIC REPORTS (Section III)

The synoptic code is an international numerical code comprised of groups of five digits. These reports are made every three hours using data from sections I and II.

SUMMARY FOR THE CLIMATOLOGICAL DAY ENDING AT 0600 UTC (Section IV)

MAXIMUM TEMPERATURE (°C) : (Col. 45)

The 24-hour maximum temperature from the bottom of column 5 (Section I) is entered here in degrees and tenths.

MINIMUM TEMPERATURE (°C) : (Col. 46)

The 24-hour minimum temperature from the bottom of column 7 (Section I) is entered here in degrees and tenths.

AMOUNT OF PRECIPITATION : (Cols. 49-55)

The 6-hour total amounts (Cols. 49-52) are transposed from column 12 of Section I. The 24-hour amounts (Cols. 53-55) are transposed from the bottom of columns 11, 9 and 12 of Section I.

DEPTH OF SNOW ON GROUND : (Col. 56)

The depth of snow on the ground at the 1200 UTC observation (noted by an asterisk in column 14, Section II) is entered here in whole centimetres.

DAY WITH : (Cols. 57-63)

The information recorded in columns 2-4 of Section I is used to determine entries in columns 57-63. The entry in these columns is either "0" or "1" depending on the non-occurrence or occurrence of a particular phenomena. The entry in columns 64 and 65 is either "0" or "1" depending on the mean wind speed from column 37 section II.

PEAK WIND SPEED, GUST OR MEAN: (Cols. 66-68)

The peak wind speed, accompanying direction and time to the nearest hour UTC are listed. No entries are made in columns 66 to 68 if the peak speed does not exceed 16 knots. The peak wind is usually found in Section II, however at station equipped with gust recording instruments, this speed may be entered directly from the autographic chart.

WSS/June 1987

Climatological Services Division
Atmospheric Environment Service
4905 Dufferin Street
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SURFACE WEATHER RECORD

AT KARNWAY (YTT) (STATION NAME AS IN METAR) PROVINCE ONTARIO FROM 0601 09 FEB 1987 TO 0600 10 FEB 1987 (HOUR (UTC) DAY MONTH) LST − UTC − 5 HOURS

CHECKED, CERTIFIED COMPLETE AND CORRECT BY: M.A. NOBS

I OBSERVED DATA AND COMPUTATIONS

II HOURLY OBSERVATIONS

I NOTES AND INSTRUMENT DEFECTS AND CHANGES	Corrected Wet Bulb °C (22)	Dry Bulb (23)	Wet Bulb (24)	Dew Point (25)	U (26)	Wind Dir. (27)	Wind Spd. (28)	Obs. Time (UTC) (29)	Sky Condition (30)	Visibility (km) (31)	Weather and Obstructions to Vision (32)	Station Pressure (mbs) (33)	Temperature °C (TENTHS) Dry Bulb (34)	Temperature °C (TENTHS) Dew Point (35)	WIND Dir. (36)	WIND Spd. (37)	WIND Gust (38)	Pressure Tendency (39)	CLOUDS and/or OBSCURING PHENOMENA Type/Amount (40)	REMARKS (41)	(16.8)	(42)	(43)	TT,dA (44)	(45)
	-21.3	76	0	0	SA	09	0700	CLR	15+		210	-21.2	-24.2	36	10		009				092			2200	KM
1800 MAX FM 1800 D.B.	-20.7	76	0	1	SA	09	0800	240 - SCT	15+		211	-20.6	-23.6	36	07		010	CI			093			6601	KM
0000 MIN FM 1800 D.B.	-20.6	71	1	2	SA	09	0900	240 - SCT	15+		213	-20.4	-24.4	35	08		010	CI 1		(16.8)	095	2005	4412	KM
	-20.2	72	2	4	SA	09	1000	240 - SCT	15+		210	-20.0	-23.8	36	06		009	CI 2			092		0829	KM
DRFTG SNW 0548 →			2	3	C	09	1030	240 - SCT	12					36	06			CI 2						KM
	-19.3	73	4	6	SA	09	1100	240 - BKN	7		208	-19.1	-22.6	01	04		008	CI 4	VSBY NE-SE 3F		090		1646	KM
			6	6	SP	09	1123	-X	2½	F				36	04			F6						KM
	-18.9	78	8	8	SA	09	1200	-X	2	F	205	-18.9	-21.9	01	04		008	F8		(16.5)	090	6005	9988	KM
			10	10	SP	09	1236	W2X	¼	F				01	03			F10						KM
	-18.0	89	10	10	RS	09	1300	W1X	¼	F	202	-18.1	-19.4	02	01		008	F10	RIME ON INDICATOR		087		19XX	KM
			10	10	SP	09	1328	WQX	⅛	F				00	00			F10						KM
	-17.8	84	10	10	SA	09	1400	WQX	⅛	F	193	-17.8	-20.1	00	00		005	F10	RIME ON INDICATOR		028		81XX	KM
			10	10	SP	09	1441	W7X	¼	F				00	00			F10						KM
	-17.1	89	10	10	RS	09	1500	A15X	2	F	195	-17.2	-18.4	02	03		002	F10	VSBY E1 FROIN	(16.5)	020	8020	24XX	KM
			8	8	SP	09	1517	-X E240 BKN	3	F				04	05			F7 CS1						KM
	-16.3	82	7	9	SA	09	1600	-X E240 BKN	5	F	175	-16.2	-18.4	04	06		999	F4 CS3			010		2979	KM
	-16.1	73	9	10	SA	09	1700	190 SCT E200 OVC	7		169	-15.3	-19.7	05	08		998	AS4 CS5			009		8792	KM
(UTC) Type / Begin / End — Duration of Weather and/or Obstructions to Vision — Type / Begin / End (UTC)	-15.1	79	10	10	SA	09	1800	E140 BKN 200 OVC	15		155	-14.9	-17.8	06	10		993	AS7 CS3	SUN DIMLY VSB	(16.5)	990	7030	9855	KM
	-13.9	81	10	10	SA	09	1900	E120 OVC	15		155	-13.7	-16.1	06	11		993	AS 10			990		7155	KM
F / 1236 / 1500	-12.9	82	10	10	SA	09	2000	E120 OVC	20		147	-12.7	-14.9	09	15		991	AS 10			982		7990	KM
S-- / 2258 / 2330	-11.7	83	9	10	SA	09	2100	E100 OVC	20		146	-11.5	-13.8	08	14		991	AS 9	VIRGA SE	(16.5)	981	6009	8891	KM
S- / 2330 / 0959	-10.2	82	10	10	SA	09	2200	E90 OVC	20		145	-9.9	-12.4	10	12		990	AS 10	VIRGA E-E		980		9955	KM
S / 0959 →	-8.4	87	10	10	SA	09	2300	E90 OVC	12	S--	143	-8.2	-9.7	11	12		990	AS 10			978		27XX	RD
			10	10	SP	09	2330	E75 OVC	8	S-				09	12			AS 10						RD
	-7.3	89	10	10	SA	10	0000	E70 OVC	7	S-	133	-7.1	-8.6	10	11		987	AS 10		(16.3)	970	8011	1688	RD
	-6.8	89	10	10	SA	10	0100	E70 OVC	6	S-	123	-6.6	-8.0	11	15		984	AS 10			960		60XX	RD
	-6.1	90	10	10	RS	10	0200	9 SCT M70 OVC	4	S-	113	-5.9	-7.4	12	17		981	SF2 AS8	/801/		956		94XX	RD
	-5.8	90	10	10	SA	10	0300	8 SCT M50 OVC	3	S-	096	-5.6	-6.8	12	17		977	SF4 NS6		(16.1)	935	8035	6818	RD
			10	10	SP	10	0311	M6 BKN 40 OVC	3	S-				12	16			SF7 NS3						RD
	-5.7	88	10	10	SA	10	0400	M8 BKN 30 OVC	3	S-	079	-5.4	-7.1	14	15		972	SF7 NS3			918		41XX	RD
			10	10	SP	10	0429	M8 BKN 30 OVC	1	S-				14	17			SF8 NS2						RD
	-5.1	91	10	10	SA	10	0500	M5 BKN 25 OVC	1	S-	061	-4.9	-6.3	14	18		967	SF8 NS2	/802/		900		93XX	KM
			10	10	SP	10	0539	5 SCT P8 X	¾W	S-				15	15			SF6 S5	VSBY ½-1					KM
			10	10	SP	10	0548	5 SCT P8 X	¾	S-				15	32	G40		SF6 S5	DRFTG SNW					KM
	-4.8	91	10	10	RS	10	0600	5 SCT P8 X	½	S	034	-4.4	-5.7	16	20		959	SF6 S5	PRESFR DRFTG SNW/803/	(16.1)	873	8062	47XX	KM

HOUR (UTC)	Corrected Maximum (°C) (6)	T,T,T, (7)	Corrected Minimum (°C) (8)	T,T,T, (9)
12	-18.7 (-18.63)	(24) -21.1	-21.6	12 -23.1
18	-19.9 (-19.83)	12 -19.9	-19.0	24 -23.1
00	-6.9	12 -6.9	-19.9 (-19.72)	18 -21.6
06	-4.2	24 -4.2	-8.2	24 -21.6
24-HR	-4.2		-21.6	

	YY GG i_w (UTC)	II (31)	$w_1 w_2$ (32)	N s h h (33)	$1s_n$ TTT (34)	$2s_n$ T,T,T, (35)	P,P,P,P, (36)	4PPPP (37)	5appp (38)	6RRRt_R (39)	7wwW$_1$W$_2$ (40)	8N$_h$ C$_L$C$_M$ (41)	333	$1s_n$T$_x$T$_x$T$_x$ (5)	$2s_n$T$_n$T$_n$T$_n$ (8)	4E'sss (14)	5 $j_1 j_2 s_n$ t$_R$t$_R$ (13)	6RR$_{24}$R$_{24}$R$_{24}$R$_{24}$	8N$_s$C$_H$h$_s$	9SPSPt$_R$t$_R$
CODED III SYNOPTIC REPORTS	09 08	4	71	999	42974	23606	11204	21244		40213	52005	7		80004	333					
	12 4	71	999	31932	03603	11189	21219	30040	40205	54005	6	7 1011	8	333	11211	21231	44017	7		
	15 4	71	999	41332	90202	11172	21184		40155	59020		7 2800	8	333						
12	18 4	71	999	31974	80610	11149	21178	39990	40155	57030	6	7 0341	86017	333	11149	21231	4	7		
18	21 4	71	999	41980	90814	11115	21138		40146	56009		7 1422	88010	333						
00 TR TR 0 TR TR 17	00 4	71	999	11961	81012	11071	21086	39970	40133	55011	6 9901	7 7123	8803X	333	11069	21216	44017	7	90521	
06 3.2 3.0 0 3.0 3.0 20	03 4	71	999	41348	81117	11056	21068		40096	58035		7 7177	8872X	333						
24-HR 3.2 3.0 0 3.0	06 4	71	999	11208	91620	11044	21057	39873	40034	58062	6 0031	7 7377	8847 XX	333	11042	21216	44020	70030	90573	

HOUR (UTC)	Snowfall (cm & tenths)	Water equivalent mm & tenths (12 hrs)	Rainfall mm & tenths (12 hrs)	Total Precip mm & tenths (12 hrs)	24 hour Precip mm & tenths (12 hrs)	Depth Snow on Ground (ground sfc) cm
12	0	0	0	0	0	17
18	0	0	0	0	0	17
00	TR	TR	0	TR	TR	17
06	3.2	3.0	0	3.0	3.0	20
24-HR	3.2	3.0	0	3.0		

TIME (UTC)	0900 LST − 22.8 = UTC − 13.8	1200 LST − 21.8 = UTC − 12.8	1500 LST − 21.4 = UTC − 12.4	1800 LST − 21.3 = UTC − 12.3	2100 LST − 20.8 = UTC − 11.8	0000 LST − 18.9 = UTC − 9.9	0300 LST − 17.2 = UTC − 8.2	0600 LST − 14.9 = UTC − 5.9
15 Sun (T, - Td)	-42.8	-40.8	-38.8	-36.2	-31.9	-26.0	-22.8	-19.3
16 Mean (Sum ÷ 2)	-21.4	-20.4	-19.4	-18.1	-16.0	-13.0	-11.4	-9.7
17 Attached Thermometer	68	70	71	73	72	71	69	70
18 Barometer as read	1008.0	1007.7	1005.8	1003.0	1002.0	1000.8	997.1	991.0
19 Total Correction	-3.5	-3.7	-3.8	-4.0	-3.9	-3.8	-3.6	-3.7
20 Station Pressure	1004.5	1004.0	1002.0	999.0	998.1	997.0	993.5	9873
21 Reduction to Sea Level	16.8	16.5	16.5	16.5	16.5	16.3	16.1	16.1
22 Sea Level	1021.3	1020.5	1018.5	1015.5	1014.6	1013.3	1009.6	1003.4

IV SUMMARY FOR THE CLIMATOLOGICAL DAY ENDING AT 0600 UTC

555	015,5,5,	1 8888	2 s_n s_n s_n s_n	3 $d_1 d_1 f_1 f_1$	4 $i_1 i_1 i_1$	
555	01	1 0032	2 0030	3 1540	4 0062	

	TEMPERATURE Maximum (42)	TEMPERATURE Minimum (43)	REL HUMIDITY Maximum (44)	REL HUMIDITY Minimum (45)	AMOUNT OF PRECIPITATION 6-HOUR TOTAL AMOUNT 1200Z (46)	1800Z (47)	0000Z (48)	0600Z (49)	24-HOUR AMOUNT Number of hrs (24.21 A) (50)	Snowfall (51)	Total Precip (52)	DEPTH of snow on the ground at 12Z (53)	Thunderstorm (54)	Freezing Rain or Freezing Drizzle (55)	Hail (56)	Fog (57)	DAY OF MONTH 1 day of 1 or more (58)	10 or more (59)	Blowing Snow (60)	MEAN WIND SPEED 10 or more knots (61)	1 or more knots (62)	PEAK GUST (Local Time) Speed (63)	Direction (64)
09	-4.2	-21.6	91	71	0	0	TR	3.0	0	3.2	3.0	17	0	0	0	1	0	0	0	1	0	15	40E 06

Appendix 1

Appendix 2

For the purpose of the following table of examples Coordinated Universal Time (UTC) will be 1200 UTC.

TIME ZONE	Local Standard Time (LST)	Daylight Savings Time (DST)
Newfoundland Standard Time (NST)	8:30 AM	9:30 AM
Atlantic Standard Time (AST)	8:00 AM	9:00 AM
Eastern Standard Time (EST)	7:00 AM	8:00 AM
Central Standard Time (CST)	6:00 AM	7:00 AM
Mountain Standard Time (MST)	5:00 AM	6:00 AM
Pacific Standard Time (PST)	4:00 AM	5:00 AM

Appendix 3

INTERNATIONAL NAUTICAL MILES TO KILOMETRES

1 International Nautical Mile = 1.85 Kilometres

N. Miles	0	1	2	3	4	5	6	7	8	9
0	0	2	4	6	7	9	11	13	15	17
10	19	20	22	24	26	28	30	32	33	35
20	37	39	41	43	44	46	48	50	52	54
30	56	57	59	61	63	65	67	69	70	72
40	74	76	78	80	82	83	85	87	89	91
50	93	95	96	98	100	102	104	106	107	109
60	111	113	115	117	119	120	122	124	126	128
70	130	132	133	135	137	139	141	143	145	146
80	148	150	152	154	156	157	159	161	163	165
90	167	169	170	172	174	176	178	180	182	183

Ex: 7 nautical miles = 13 km
47 nautical miles = 87 km

Appendix 4

Clouds and/or Obscuring Phenomena

Clouds	Abbreviations
Altocumulus	AC
Altocumulus castellanus	ACC
Altostratus	AS
Cirrocumulus	CC
Cirrostratus	CS
Cirrus	CI
Cumulonimbus	CB
Cumulus	CU
Cumulus Fractus	CF
Stratus Fractus	SF
Towering Cumulus	TCU
Nimbostratus	NS
Stratocumulus	SC
Stratus	ST

Obscuring Phenomena	Abbreviations
Rain (any form including RW and ZR)	R
Hail	A
Ice Pellets (including Ice Pellets Showers)	IP
Drizzle (including Freezing Drizzle)	L
Ice Crystals	IC
Snow (Snow Showers, Snow Pellets and Snow Grains)	S
Blowing Snow	BS
Fog (any form)	F
Dust	D
Haze	H
Sand	N
Smoke	K